

## Remarks

In the present response, two claims (1 and 16) are amended, and claims 24-49 are canceled. Claims 1-23 are presented for examination.

### **I. Claim Rejections: 35 USC § 102(e)**

Claims 1-2, 4-5, and 9-11 are rejected under 35 USC § 102(e) as being anticipated by USPN 2003/0118310 (Steinberg). Applicants respectfully traverse this rejection.

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. See MPEP § 2131, also, *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). Since Steinberg neither teaches nor suggests each element in the claims, these claims are allowable over Steinberg.

#### **Claim 1**

Claim 1 recites numerous limitations that are not taught or suggested in Steinberg. By way of example, claim 1 recites creating a channel within a planar layer of first and second substrates. The claim then recites “optically coupling with a switch the channel in the first substrate with the channel in the second substrate.” Steinberg does not teach or suggest these recitations. For example, Steinberg shows a single planar layer.

For at least these reasons, independent claim 1 and its dependent claims are allowable over Steinberg.

#### **Claim 16**

Claim 16 recites numerous limitations that are not taught or suggested in Steinberg. By way of example, claim 16 recites providing first and second planar layers with first and second channels. The claim then recites “providing vias through the first and second planar layers to connect the composite channel with different optical pathways.” Steinberg does not teach or suggest these recitations. For example, Steinberg shows a single planar layer.

For at least these reasons, independent claim 16 and its dependent claims are allowable over Steinberg.

## **II. Claim Rejections: 35 USC § 102(e)**

Claims 1-2, 4-5, 12-14, 16, 18-19, and 21-22 are rejected under 35 USC § 102(e) as being anticipated by USPN 6,624,077 (White). Applicants respectfully traverse this rejection.

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. See MPEP § 2131, also, *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). Since White neither teaches nor suggests each element in the claims, these claims are allowable over White.

### **Claim 1**

Claim 1 recites numerous limitations that are not taught or suggested in White. By way of example, claim 1 recites creating a channel within a planar layer of first and second substrates. The claim then recites “optically coupling with a switch the channel in the first substrate with the channel in the second substrate.” White does not teach or suggest these recitations. For example, White does not show a switch that couples two channels in two substrates.

For at least these reasons, independent claim 1 and its dependent claims are allowable over White.

### **Claim 16**

Claim 16 recites numerous limitations that are not taught or suggested in White. By way of example, claim 16 recites providing first and second planar layers with first and second channels. The claim then recites “providing vias through the first and second planar layers to connect the composite channel with different optical pathways.” White does not teach or suggest these recitations. For example, White does not show vias as claimed.

For at least these reasons, independent claim 16 and its dependent claims are allowable over White.

### **III. Claim Rejections: 35 USC § 102(e)**

Claims 1-2, 6-9, and 14 are rejected under 35 USC § 102(e) as being anticipated by USPN 2001/0026670 (Takizawa). Applicants respectfully traverse this rejection.

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. See MPEP § 2131, also, *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). Since Takizawa neither teaches nor suggests each element in the claims, these claims are allowable over Takizawa.

#### **Claim 1**

Claim 1 recites numerous limitations that are not taught or suggested in Takizawa. By way of example, claim 1 recites creating a channel within a planar layer of first and second substrates. The claim then recites “optically coupling with a switch the channel in the first substrate with the channel in the second substrate.” Takizawa does not teach or suggest these recitations. For example, Takizawa does not show a switch that couples two channels in two substrates.

For at least these reasons, independent claim 1 and its dependent claims are allowable over Takizawa.

#### **Claim 16**

Claim 16 recites numerous limitations that are not taught or suggested in Takizawa. By way of example, claim 16 recites providing first and second planar layers with first and second channels. The claim then recites “providing vias through the first and second planar layers to connect the composite channel with different optical pathways.” Takizawa does not teach or suggest these recitations. For example, Takizawa does not show vias as claimed.

For at least these reasons, independent claim 16 and its dependent claims are allowable over Takizawa.

**IV. Claim Rejections: 35 USC § 103**

Claims 3, 15, and 23 are rejected under 35 USC § 103 as being unpatentable over White. As shown above in section II, White does not teach or suggest all the elements in independent claims 1 and 16. For at least these reasons, dependent claims 3, 15, and 23 are allowable over White.

**V. Claim Rejections: 35 USC § 103**

Claims 17 and 20 are rejected under 35 USC § 103 as being unpatentable over White and Steinberg. As shown above in sections I and II, White and Steinberg do not teach or suggest all the elements in independent claims 1 and 16. For at least these reasons, dependent claims 3, 15, and 23 are allowable over White and Steinberg.

### **CONCLUSION**

In view of the above, Applicants believe that all pending claims are in condition for allowance. Allowance of these claims is respectfully requested.

Any inquiry regarding this Amendment and Response should be directed to Philip S. Lyren at Telephone No. 832-236-5529. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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